

[0055] It should be noted that in the method 600, added features beyond traditional service discovery may be used. For example, if the peripheral 500 is supplied in a public area such as an airplane as is subsequently discussed, then the mobile unit and the peripheral 500 (or an associated server) may make a financial contract so that the mobile unit compensates the peripheral 500 for its use. In such cases, 615 involves coupling a message to the associated network server. The peripheral 500 can use its LAN or WAN connection to support a session connection between the mobile unit and the associated network server. The session connection, for example, may involve a secure socket or an IPSEC transport session between the mobile unit and the associated server that contracts the peripheral's services and provides billing and authentication support for the peripheral. That is, the mobile unit and the network server engage in an admission protocol to determine whether the mobile unit will be granted access to the flexible-retractable peripheral service. In some cases, the peripheral may couple a set of admission parameters (e.g., peripheral identifier code and a network address) to the mobile unit and the mobile unit may use its own wireless WAN or LAN connection to communicate directly with the server.

[0056] Once the service discovery protocol has been completed, the peripheral 500 becomes coupled to the mobile unit (620). Next the peripheral 500 supplies an extended peripheral service to the mobile unit using the flexible-retractable peripheral 515.

[0057] Note that the steps 610, 615, 620 and 625 also involve the mobile unit. When performed in response to the peripheral 500 moving its FRP surface 515 to its extended state, the method 600 defines a method practiced by a mobile unit. When a remote network server acts on behalf of the peripheral 500 and participates in the step 615, then the server practices the method 600.

[0058] More specifically, the method 600 as applied to the mobile unit is to receive a service advertisement that has been made in response to the FRP 515 being placed into its extended state (610). The service advertisement can be sent out automatically once the FRP 515 reaches its extended state or possibly with the assistance of a user activating a service button on the peripheral 500. The mobile unit next engages in the service discovery protocol with the peripheral (615). Next the mobile unit reconfigures itself to be coupled to the peripheral 500 and to redirect an input and/or output stream thereto (620). Next the mobile unit executes an application program (possibly a client-server application) and uses the FRP 515 as a display and/or input surface.

[0059] The method 600 defines a server system method when a server interacts with the peripheral 500 to supply contracted peripheral extension services. The server connects with the peripheral 500 which itself in such embodiments preferably includes a wide area network connection or at least some type of local area network connection. The peripheral 500 is put in its extended state (605) and advertises its service (610). Next the peripheral 500 and the mobile unit engage in a service discovery protocol (615). The peripheral 500 couples at least some of this service discovery sequence to a remote server (not shown) coupled across a local or wide area network (not shown). In some embodiments the peripheral 500 couples a set of parameters such as the server's network address and a peripheral

identification code to the mobile unit so the mobile unit can negotiate the admission sequence with server directly. Either directly or via the peripheral 500 (which in some embodiments includes a wireless or wired LAN or WAN connection), the server and the mobile unit exchange authentication and payment data and agree (e.g., in a session) to contract the peripheral 500 for use of the mobile unit under a service agreement (615). Next the peripheral 500 couples itself to the mobile unit as a service (620) and the mobile unit redirects an input and/or output stream to the FRP 515.

[0060] While most of the examples herein discuss mobile Internet type devices, other types of devices may be used with the present invention. For example, the peripheral 500 and the method 600 may be used to support video viewing for entertainment. Much like an MP3™ player is used to allow a user to download audio files and listen to them, a mobile unit can be used as a video player. In such embodiments of the present invention, the peripheral 500 is used as a viewing surface for the video player. A variant of the method 600 is preferably used to couple the hand-held video player to the peripheral 500. The memory 115 is used to store the video program to be viewed. In some embodiments, the video program can stream into the mobile unit via the LAN/WAN interface 150. Video players with the architecture of the mobile unit 300 can also be used. In such cases, the modules 325 and 330 are not typically used.

[0061] The peripheral 500 and/or the method 600 are useful in many situations to include vehicular applications. In a preferred embodiment of the present invention, the peripheral 500 is vertically built into the left side of the driver's and co-pilots seats of a car. A person sitting in the back seat can extend the display surface 515 by stretching it from left to right across the back of the seat. Small clasps are preferably provided on the right side of the seat to hold the surface 515 in place once it is extended. A passenger in the back seat with a video player can then watch a movie or a music video, preferably with a Bluetooth™ headset and using the method 600. Of course, the peripheral 500 could be mounted into the seat in different ways, but this is a preferred embodiment.

[0062] For example, in accordance with the present invention, a vehicle and/or a vehicle subsystem is provided that has the peripheral 500 built into a portion of the vehicle (e.g., the left-back portion of the driver's seat or the passenger side of the dash board) so that a passenger can extend the surface 515 so as to provide a viewing surface (and possibly an input surface). A wireless or a wired interface is used to allow the passenger to use the viewing surface to support video viewing and/or computer applications. Depending on the embodiment, the passenger may use their own personal mobile unit, or may use a mobile unit built into the vehicle.

[0063] It should be noted that such extension peripheral functionality enables handheld mobile computers to include wristwatch computers to become useful. For example a user can download a movie into a handheld device (to include a wristwatch) and views the movie while riding as a passenger in a car, airplane or train (625). If the input capability is also supplied by a peripheral 500, then the user can use the flexible-retractable peripherals to provide a full blown non-area constrained user interface for computer application (625). Moreover, server systems that use interface with the peripherals 500 can use a combination of wireless negotia-